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CENTER FOR COGNITIVE LIBERTY & ETHICS
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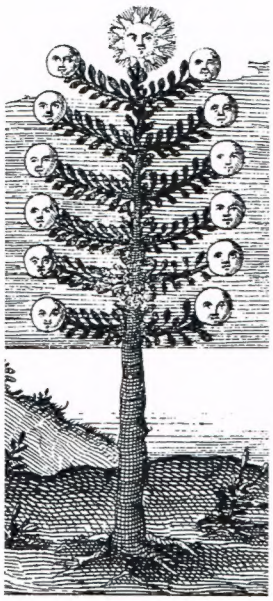
RICHARD GLEN BOIRE, J.D.
EXECUTIVE DIRECTOR



John Humphrey
P.O. Box 3063
Venice CA, 90294

Dear John,

Thank you for contributing to the Salvia Divinorum Defense Fund.

On Monday, October 15, the CCLE filed a report with the DEA's Drug & Chemical Evaluation Section, providing the agency with information concerning *S. divinorum's* history, effects and low abuse potential. Enclosed is a copy of that report.

It is my belief that if the DEA makes an honest evaluation of the plant, and has balanced information, it is reasonably likely that the agency will decide that control is not necessary and is legally unwarranted.

We are continuing to monitor the *Federal Register* in the event that the DEA decides, against reason, to place the plant within the Controlled Substances Act. Should the Agency make such a move, we will immediately respond and notify you.

You helped make this project possible; thank you again for your support.

Sincerely and with good wishes,

Richard Glen Boire

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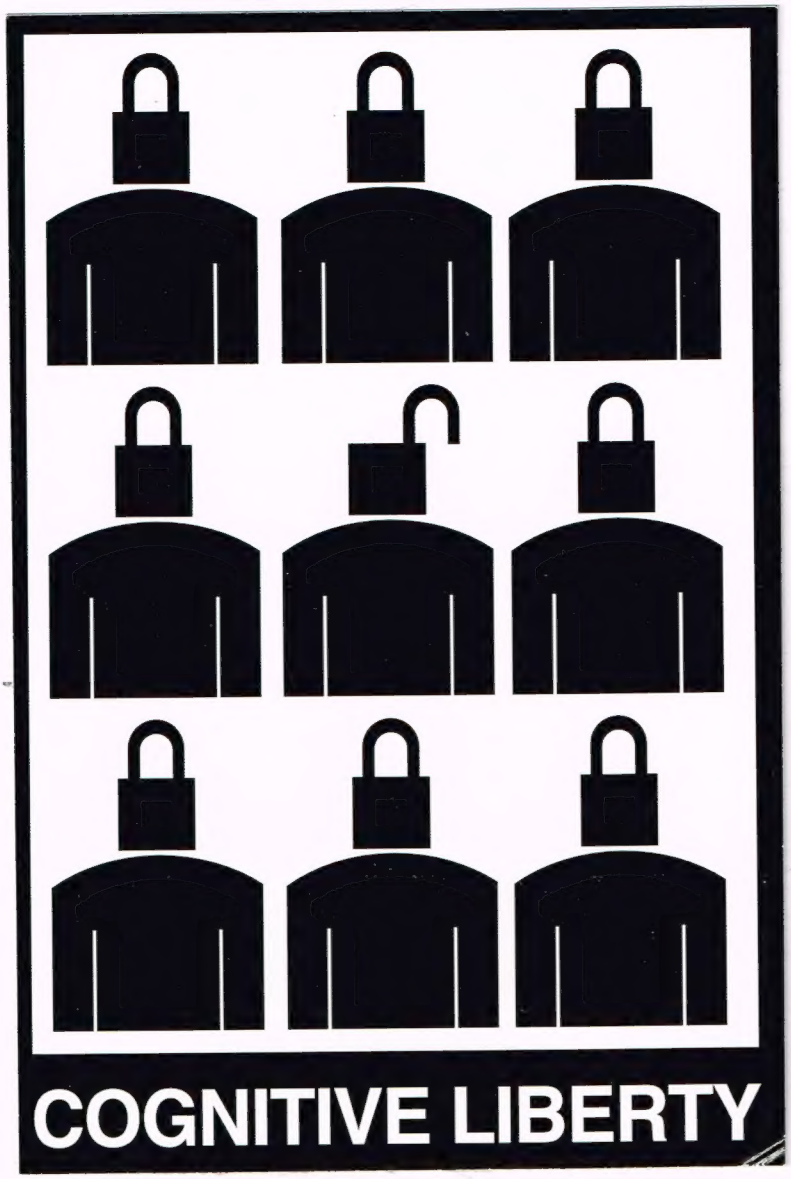
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ALCHEMIND SOCIETY

THE INTERNATIONAL

ASSOCIATION FOR COGNITIVE LIBERTY

Without the right to control your own mind, what freedom remains?

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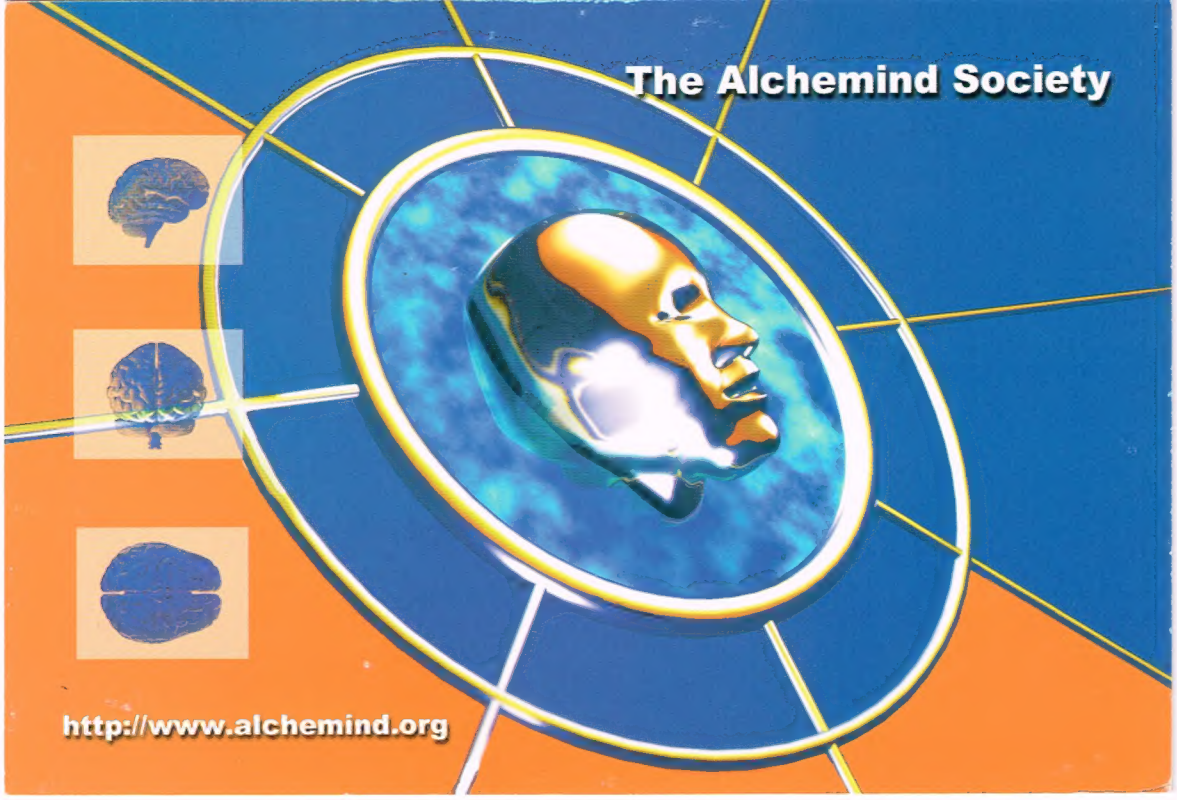
The Alchemind Society
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The Alchemind Society:

The International Association for Cognitive Liberty

The Alchemind Society is an international non-profit association of people united in the principle that the freedom to control one's own consciousness is the essential foundation of all other freedoms.

The Alchemind Society advocates cognitive liberty-the fundamental human right to experience multiple modes of consciousness and to engage in independent, insightful, and creative thought processes free of government prohibition. ***www.alchemind.org***

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Salvia divinorum

INFORMATION CONCERNING
THE PLANT AND
ITS ACTIVE PRINCIPLE

CENTER FOR
COGNITIVE LIBERTY & ETHICS

Center for
Cognitive Liberty & Ethics

The Center for Cognitive Liberty & Ethics (CCLE) is a nonpartisan, nonprofit 501(c)(3), law and policy center working in the public interest to protect fundamental civil liberties. To obtain information about CCLE studies or to order documents, contact the CCLE (telephone: 530-750-7912; FAX 530-750-7912; or e-mail: info@cognitiveliberty.org).

This report was prepared September 2001.

CCLE

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Salvia divinorum

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Arabs, Greeks and Romans for their medicinal properties. They are still utilized in this capacity by indigenous cultures around the globe, including Native Mexicans.

As its name reflects, *Salvia divinorum* (translation: "Diviner's Sage" or "Sage of Seers") is traditionally employed by the Mazatec Indians in medico-magical-divination ceremonies. (Epling & Játiva 1962). To the Mazatec, *S. divinorum* provides numerous therapeutic applications. Infusions of the plant are administered in a ceremonial context and are used for a variety of complaints, including diarrhea, headache, rheumatism and anemia. Mazatec shamans use *S. divinorum* as a vision-inducing plant. They say it "allows them to travel to heaven and talk to God and the Saints about divination, diagnosis, and healing" (Rovinsky & Civadlo 1998).

Description, Composition & Effects

Salvia divinorum is also known, in Mazatec, as *Ska Pastora* or *Ska María Pastora*, meaning "Leaves of the Shepherdess" or "Leaves of Mary the Shepherdess." In Náhuatl it is named *Pipiltzintzintli*, and in Spanish, *la Hembra* or *Hojas de Pastora*. In English, it is commonly referred to as Magic Mint, or more properly by its direct translation from Latin, "Diviner's Sage" or "Seer's Sage."

The plant is a perennial herb with flowering stems growing two or even three meters tall. This plant has never been observed to set seed in the wild, and although they may be found to flower from May to September, they do so rarely, in white and pale cyan.

Despite its availability to science over the last few decades, investigation and use of *S. divinorum* or its primary psychoactive substance, salvinorin A (a diterpenoid agent devoid of nitrogen), remain quite limited. Examination of the PubMed database of the National Library of Medicine results in only five citations (Giroud 2000, Valdés 1994, Siebert 1994, Valdés 1986, and Valdés 1983).

There are several reasons why so little information about either *S. divinorum*, or salvinorin A exists in the medical literature. Firstly, cultivation of *S. divinorum* is relatively exacting, and commerce in the plant is presently limited. Secondly, the plant and chemical seem to have little innate toxicity. Animal studies stimulate decreases in movements without sedation (Valdés 1994). Administration of huge doses of salvinorin A to rats produced no observable subsequent sequelae on behavior (Valdés 1987).

Of greater import, it is uniformly acknowledged that *S. divinorum* is a difficult agent to employ, with a steep "learning curve." It is virtually inactive orally due to the insolubility in water of salvinorin A. The bitterness of the leaves is a hindrance to many. Smoking the leaves requires rapid inhalation of large volumes. Intoxication with the plant is inconstant and evanescent. Even the isolated chemical is associated with very transient effects in humans. Few consider the psychoactive effects pleasurable, and most people choose not to repeat the experience after one exposure. Many describe the appearance of geometric shapes in the vision, while at higher doses, a brief dissociative effect, "out-of-body experience," or true hallucination may be produced.

Availability& Abuse Potential

Salvia divinorum is endemic only to the Mazatec zone of the Sierra Madre Oriental, in the Mexican state of Oaxaca. It is propagated vegetatively, and because the only specimens observed in its native habitat were known to be planted by Mazatecs, it is assumed to be a cultigen. Cultivation by non-Mazatecs in more northern latitudes has been accomplished, but it is difficult and demands a high degree of technical skill. The plant requires rich soil and much moisture, tolerating sun only if soil moisture remains high and humidity sustained.

Numerous Internet sites provide descriptions of *S. divinorum*, and its mind-altering powers. Some of the sites accentuate the unpleasant and antisocial effects of using *S. divinorum*, while others describe the "spiritual dimension" of its traditional use. Some Internet sites are used to post information about its cultivation and use, and a few herbalists conduct business online selling cuttings and leaf. Interestingly, many Internet postings recounting personal experiences include stern warnings regarding the plant's profoundly disturbing effects.

Accounts of serious medical sequelae or figures of emergency visits related to use of the plant or chemical are virtually none existent. No citations were uncovered in a search of the *Weekly Morbidity and Mortality Report*.

The Toxic Exposure Surveillance System (TESS) maintained by the American Association of Poison Control Centers has no reports of *S. divinorum*-specific poisonings. Any such reports, to the extent that they might exist, would be classified under the general category of "Hallucinogenic Plants," of

which there were only 366 exposures reported nationwide in 1999, with no fatalities.

Within the general category of "Hallucinogenic Plants," only 76 exposures were reported as intentional, and only 43 reported an adverse reaction. Exactly 128 were treated in a health care facility, with 101 having no outcome. Only four cases reported a "major" indication of ill effects, and there have been zero fatalities to date (Litovitz 2000).

No cases of dependency on *S. divinorum* or salvinorin A are reported in the literature. Aside from rare reports of pervasive anxiety-associated "bad" experiences with their usage, no cases of psychotic deterioration or other medical complications are known. Salvinorin A has been tested for activity by NovaScreen® and lacks affinity for most known neurotransmitter receptors (Siebert 1994).

Any danger from the use of the plant or chemical arise from anxiety reactions, or the possibility of accidents secondary to users ambulating or pursuing other activities while visually impaired. Anxiety reactions are generally self-limited due to the brief duration of effects, and are amenable to quiet reassurance. Additionally, extraneous noise or even opening the eyes may totally terminate the psychoactive effects.

Unlike other dissociative plant agents subject to occasional recreational use, such as *Datura* spp. or *Brugmansia* spp., *Salvia divinorum* and its active ingredient salvinorin A are short acting and lack any known tissue toxicity, gastrointestinal or cardiovascular sequelae.

LEGAL STATUS

Salvia divinorum is not scheduled under the federal Controlled Substances Act, nor is it controlled under any state laws. Its active principle, salvinorin A, is likewise unscheduled under Federal or state law.

Salvinorin A's chemical structure appears to be unique among other psychoactive molecules, and among existing controlled substances (Valdés 1994). Because it is not "substantially similar" in chemical structure to an existing controlled substance, salvinorin A does not fall within the Controlled Substance Analogue Act (21 USC 802(32)(A)).

In order to place *S. divinorum* or salvinorin A in Schedule I of the Controlled Substances Act, three criteria must be satisfied. The plant must be shown to have: (1) a high potential for abuse; and (2) no currently accepted medical use in treatment in the United States, and (3) a lack of accepted safety for use under medical supervision (21 U.S.C. Sec. 812(b)).

Placement of the plant or chemical in Schedule I cannot be scientifically justified. The plant and chemical have minimal abuse potential and no addictive potential. Although *S. divinorum* presently has no accepted medical use in the United States, ethnobotanical data supports possible therapeutic effects that deserve additional investigation, and available data would support the safety of using *S. divinorum* or salvinorin A under medical supervision. Further, Schedule I status for salvinorin A or its parent plant would seriously inhibit scientific research that has the potential to uncover novel neurotransmitter systems of great importance to the advancement of neuropharmacological research and the treatment of disease.

Analyst Comments

Salvia divinorum is a powerfully psychoactive plant, which until recently remained unknown to all but a specialized subset of ethnobotanists. The plant's bitter taste, unpredictable and often disturbing short-term mental effects, combined with exacting cultivation parameters, make it an unlikely candidate for widespread use. Thus, while recent news coverage has produced a spike of interest in the plant as a "legal hallucinogen," use of the plant is not expected to ever reach the level experienced with other illegal drugs.

Neither *S. divinorum* nor salvinorin A have a "high potential for abuse," and ethnobotanical data suggests possible therapeutic applications that warrant further investigation. Accordingly, they are not appropriate candidates for placement in Schedule I. Education aimed at raising awareness of the plant's unpredictable and occasionally terrifying psychoactive effects, rather than criminal prohibition, is key to reducing individual and social harm with respect to *Salvia divinorum* and its active principle.

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Wasson, R.G. 1962. A new Mexican psychotropic drug from the mint family, *Botanical Museum Leaflets* Harvard University 20 (3): 77-84.

SOURCES FOR MORE INFORMATION

Toxic Exposure Surveillance System (TESS)
American Association of Poison Control Centers
Telephone: 202-362-7217
E-mail: aapcc@poison.org
Web site: www.aapcc.org/poison1.htm

PubMed (National Library of Medicine)
Web site: http://www4.ncbi.nlm.nih.gov/PubMed/

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